ERGONOMICS
AND THE
COMPUTER WORKSTATION AT HOME

Most of you may be familiar with the basic meaning of ergonomics, (*Fitting the job to the user, not the user to the job.)* and its importance in your primary work area. But, have you ever considered the impact of ergonomics at your home computer workstation? The following information will allow you to make improvements that will encourage proper postures, placing less stress on the muscles, ligaments, and joints in your body. The outcome of a properly designed workstation will be enhanced comfort, safety, and productivity.

The first step is to survey your existing workstation. (*Please answer the following questions.)*

Computer Use

yes ☐ no ☐ Is there more than 1 person using this workstation?
yes ☐ no ☐ Will you be spending more than 4 hours per day at this workstation?

Legs and Back

yes ☐ no ☐ Do you have an adjustable chair?
yes ☐ no ☐ Do you know how to adjust your chair?
yes ☐ no ☐ While seated are your feet firmly placed on the floor or a footrest?
yes ☐ no ☐ Is there 1 ½ - 2 inches between the edge of your seat and the back of your knees?
yes ☐ no ☐ While seated, is there a 90 to 110 degree bend at the hips and knees?
yes ☐ no ☐ Does your chair provide adequate low back support?

Arms, Wrists, and Hands

yes ☐ no ☐ Are your wrists comfortably straight while operating the keyboard and mouse?
yes ☐ no ☐ Are your shoulders relaxed?
yes ☐ no ☐ Are your keyboard and mouse positioned so that your elbows have about a 90 degree bend?

Neck and Head

yes ☐ no ☐ Is the top of your computer screen at or slightly below eye level? (If you use bifocals while viewing your screen; place the top of your monitor significantly below eye level.)
yes ☐ no ☐ Is the monitor placed directly in front of you and aligned with your keyboard and mouse?

yes ☐ no ☐ Is the document holder adjacent to the monitor or between the monitor and keyboard?

Additional Ideas

yes ☐ no ☐ Is your computer screen positioned so there is not any glare?
yes ☐ no ☐ Do you clean your computer screen at least 1 time per week?
yes ☐ no ☐ Do you alternate tasks throughout your day?
yes ☐ no ☐ Do you incorporate stretching into your daily work routine?

Now, let's make some improvements!!

Computer Use

The number of people who will be using the computer and the amount of time spent on the computer are both important elements when considering workstation design. Height adjustable equipment is suggested if more than 1 person is using the workstation, or if the computer will be used for lengthy periods of time.

Height adjustable features are suggested for the following pieces of equipment:
  ⇨ chair
  ⇨ keyboard and mouse
  ⇨ monitor

Legs and Back

When selecting an ergonomically designed chair the following elements are important.
  ⇨ pneumatic height adjustment
  ⇨ adjustable back (height, angle in relation to seat pan)
  ⇨ seatpan with a waterfall (rounded) edge design
  ⇨ 5 star base with casters
  ⇨ adjustable armrests (vertically, and horizontally) *consider the need for armrests and the clearance while operating the computer*

Your chair selection should also consider the dimensions of the user/users. Be sure to check out the return policy and ask if the chair can be used on a trial basis prior to purchase.

Chair Adjustment
When seated in a chair position yourself so your hips and knees have a 90 to 110 degree bend, and your feet are securely placed on the floor. The back support should be positioned to fill in the low back area, and the angle should allow for an upright position while typing. If you chose a chair with armrests, adjust the armrests until you can gently rest your elbows and forearms,

with your arms and shoulders in neutral postures. (Do not allow your shoulders to rise upward.)

⇨ A footrest can be added if a user is not able to place their feet securely on the floor.

Arms, Wrists and Hands

The keyboard **and** mouse should be positioned so that your arms, wrists and hands are neutrally positioned. The elbows should have about a 90 degree bend in them, and the wrists should be comfortably straight. (Often this means the mouse and keyboard are positioned at or slightly lower than elbow height.) Obtaining a neutral position for the arms, wrists and hands can be accomplished by using a height adjustable bi-level computer table, or an articulated keyboard mechanism and a combination keyboard/mouse platform.

Neck and Head

While performing computer tasks it is recommended to keep your head in a neutral (upright) position. Make sure that the monitor screen is positioned at or slightly lower than seated eye level. (If you use bifocals while viewing your screen; place the top of your monitor significantly below eye level.) When possible, the monitor should be positioned as far away from you as you can place it and still be able to read it clearly with good posture. Positioning the keyboard, mouse and monitor in direct alignment is critical in maintaining neutral head and neck postures.   Most monitors that are positioned on top of CPU's are generally too high, leading to awkward postures.

Single-user work station
- ⇨ monitor riser blocks
- ⇨ quick fixes (phone books, reams of paper

Multi-user work station
- ⇨ spring assist system
- ⇨ infinite height adjustment through a least a five inch range
- ⇨ appropriate size and weight capacity (consider weight, size of monitor and base)

Document holders reduce excessive neck flexion and/or rotation while viewing documents. Neutral positioning of the head and neck is achieved when documents are placed in an upright position in close proximity to the user's computer monitor. Location preference is between the user's keyboard and monitor.
- ⇨ width appropriate
- ⇨ angle and height adjustable
- ⇨ lower edge should have appropriate depth to hold document

Additional Ideas

When positioning your computer, take windows into consideration. The best placement for your monitor is perpendicular to any outside light sources. This position will decrease the chance of glare or contrast issues that lead to eye strain. Make sure to clean your monitor at least 1 time per week, this also helps reduce eye strain.

Incorporate stretching into your daily work routine, and remember to change your position at least every 30 minutes.

Remember, it is never too early to begin practicing safe work habits, so share this information with your family members and other who may be using computers.